

REMARKS

In response to the final Official Action of April 4, 2005, claims 1-3, 7, 11 and 16-18 have been amended and claim 6 has been cancelled. For reasons set forth below, it is believed that the amendment to the claims do not raise new issues and therefore entry of this amendment is respectfully requested.

More particularly with regard to paragraph 4 of the Official Action, claims 17 and 18 have been amended to change their dependencies so as not to be duplicative with claims 14 and 15 respectively.

Referring now to paragraph 5 of the Official Action, it is respectfully submitted that claims 1-5, 7-12, 15, 16 and 18 are not anticipated or suggested by US patent 5,822,699, Kotzin et al (hereinafter Kotzin). In particular, independent claims 1, 11 and 16 have each been amended in a manner which is believed to more particularly point out and distinctly claim the invention in a way which distinguishes the claimed invention over Kotzin. Claim 1 has been amended to incorporate the limitations of dependent claim 6 and similar amendment has been made to method claim 16 and to mobile station claim 11. Due to the basis for these amended claims, no new issues are believed to be raised.

With this amendment, claim 1 now recites a method for operating a radio telecommunications system comprising a mobile station and two or more cell site units capable of communicating by radio with the mobile station on at least two communication channels. It further recites that the mobile station is in traffic communication on a traffic communication channel with at least two of the cell site units. Furthermore, the mobile station determines an estimate of the level of interference with signals on each of at least two communication channels and that the mobile station communicates to a handover controller the estimate of the level of interference with signals with each of the at least two communication channels and finally that the handover controller determines to which of the cell site units to hand over traffic communication of the mobile station on the basis of at least the estimates of the level of interference with signals on each of the at least two communication channels. Thus, each of the cell sites is able to communicate with the mobile station on at least two communication channels having different frequencies and the mobile station determines an estimate of the level of interference with signals of each of the at least two communication channels. Thus, the present invention as set forth in amended claim 1,

measures levels of interference on multiple channels of at least two cell sites for determining handover between different cell sites.

Kotzin describes a method for maintaining call quality in a communication system by switching between channels in a specified cell where each channel is associated with a different channel reuse pattern in the cellular system. Thus, as set forth in Kotzin at column 10, line 24 through column 11, line 11, an example is presented with regard to Figures 8A and 8B which shows two channel reuse patterns, the first represented by the channel group having a set of channels (1-4) and the second having a channel group with a set of channels (A-F). Cell 107 is shown to be capable of using both channel 1 of the first group of channels and channel D of the second group of channels, while cell 111 uses channel 1 of the first group and channel F of the second group. Thus, channels D and 1 are provided by the same base station 107. In the example described in Kotzin, a measurement is made of the channel 1 signal (or channel 1 and the adjacent channel) received at the mobile station from both cells 107 and 111 which transmit using the same (or adjacent) channels so as to determine the signal usability. If the signal usability drops below a predetermined threshold, then the base station causes the mobile station to switch channels within a single cell, for instance, from channel 1 to channel D in cell 107, so as to reduce interference. This is specifically pointed out at column 11, lines 3-11 wherein it states:

“Once it has been determined that communication unit 113 is a potential interferer to communication unit 114, base site 101 transmits a hand-off command to communication unit 113 that directs communication unit 113 to hand-off to an uplink/downlink channel associated with group D. Since base site 105 does not operate with channels belonging to group D, the interference produced by communication unit 113 as perceived by the distant base site 105 (and similarly, all sites utilizing group 1 channels) has been reduced.”

Thus, the technique in Kotzin is clearly different from that of the present invention as set forth in amended claim 1. Specifically, as set forth in amended claim 1, the mobile station communicates to the handover controller the estimate of the level of interference with signals with each of the communication channels and the handover controller then determines to which of the cell site units to hand over traffic communication of the mobile station on the basis of at least the

estimate of the level of interference of each of the different channels. Thus, the handover between cell site units is dependent on the measure of the level of interference of multiple channels. This method of operating a radio telecommunications system is neither disclosed nor suggested by Kotzin.

In this regard, it is respectfully submitted that the Examiner's comments concerning the rejection of claim 6 are traversed. At page 4, the Examiner states that claim 6 is anticipated by Kotzin and that Kotzin discloses a handover control unit determining to which of the cell site units to hand over traffic communication of the mobile station on the basis of at least that information indicating the estimated level of interference. The Examiner cites column 2, lines 55-65 and columns 9 and 10 of Kotzin. The language cited in Kotzin does not support the handover control unit determining to which of the cell site units to handover traffic communication of the mobile station on the basis of at least the estimates of the level of interference with signals on each of the at least two communication channel where each of the two communication channels are associated with a cell site unit. As set forth in Kotzin at column 2, lines 55-65, communication exists between a first site and a communication unit on a first channel where the first channel is associated with a first group of channels. Next, the communication unit monitors a second channel transmitted from a second site and determines the characteristic of the second channel. Finally, the communication unit is transferred to a third channel based on the characteristic of the second channel where the third channel is associated with a second group of channels having a less aggressive reuse pattern than the first group of channels. Thus, the communication unit is not handed over to a different cell site based on the level of interference with signals of each of two communication channels but rather a different channel in a second group of channels in the same cell site is selected depending upon a second channel transmitted from a second site so as to determine a characteristic of that second channel. This is also more specifically performed in the alternative embodiment of Kotzin recited at column 2, lines 66 through column 3, line 10, as well as in the description at column 10 concerning Figures 8A and 8B as discussed earlier.

It is therefore respectfully submitted that previously presented claim 6 whose limitations are now recited in amended claims 1, 11 and 16 does not anticipate these claims.

Similar amendment has been made to method claim 16 and to mobile station claim 11 and therefore claims 11 and 16 are also believed to be novel over Kotzin.

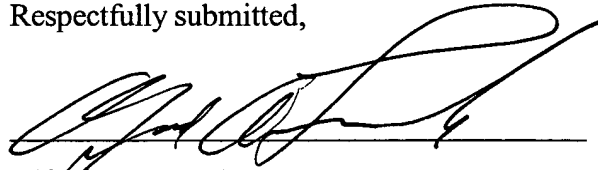
Furthermore, although Kotzin describes measuring the received signal to interference ratio of two same or adjacent channels to determine the interference between the two channels, it is respectfully submitted that it would not have been obvious to a person of ordinary skill in the art to modify the method described in Kotzin to monitor the interference of two different channels between two different cell sites in a user equipment in order to determine a cell site unit handover decision based on the level of interference recorded by the user equipment for each of the different channels separately. As such, it is further respectfully submitted that Kotzin does not suggest the method presented in amended claim 1. For similar reasons, Kotzin does not suggest amended independent claims 11 and 16.

Since independent claims 1, 11 and 16 are believed to be distinguished over Kotzin, it is respectfully submitted that claims 2-5 and 7-10 which ultimately depend from amended claim 1 and claims 12-15, 17 and 18 which ultimately depend from amended claim 11, are also believed to be distinguished over Kotzin.

Finally, referring now to paragraph 6 of the Official Action, it is respectfully submitted that dependent claims 13, 14 and 17 are not suggested by Kotzin further in view of US patent 6,466,767, Lidbrink et al, in view of the fact that claims 13, 14 and 17 all ultimately depend from independent claim 11 which as previously indicated, is believed to be distinguished over the cited art.

In view of the foregoing, it is respectfully submitted that the present application as amended is in condition for allowance and such action is earnestly solicited.

Respectfully submitted,



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